

WHAT IS CLAIMED:

1. A method of ablating or killing cancerous cells comprising:

5 providing a biological agent which, when contacted with an extracellular domain of prostate specific membrane antigen, binds to the extracellular domain of prostate specific membrane antigen and
10 contacting vascular endothelial cells proximate to the cancerous cells with the biological agent under conditions effective to permit both binding of the biological agent to the vascular endothelial cells proximate to the cancerous cells and ablating or killing of the cancerous cells.

15 2. A method according to claim 1, wherein the biological agent kills or ablates the vascular endothelial cells proximate to the cancerous cells, thereby killing or ablating the cancerous cells by
20 reducing blood flow thereto.

25 3. A method according to claim 1, wherein the cancerous cells are renal cancerous cells, urothelial cancerous cells, colon cancerous cells, rectal cancerous cells, lung cancerous cells, breast cancerous cells, or cancerous cells of metastatic adenocarcinoma to the liver.

30 4. A method according to claim 1, wherein the biological agent is an antibody or binding portion thereof, probe, or ligand.

35 5. A method according to claim 1, wherein the biological agent, when contacted with an extracellular domain of prostate specific membrane antigen, is internalized with the prostate specific membrane antigen.

6. A method according to claim 1, wherein said contacting is carried out in a living mammal and comprises:

5 administering the biological agent to the mammal under conditions effective to permit both binding of the biological agent to vascular endothelial cells proximate to the cancerous cells and killing of the cancerous cells.

10 7. A method according to claim 6, wherein said administering is carried out orally, parenterally, subcutaneously, intravenously, intramuscularly, intraperitoneally, by intranasal instillation, by intracavitary or intravesical instillation,
15 intraocularly, intraarterially, intralesionally, or by application to mucous membranes.

20 8. A method according to claim 4, wherein an antibody is used in carrying out said method, the antibody being selected from the group consisting of a monoclonal antibody and a polyclonal antibody.

25 9. A method according to claim 8, wherein the antibody is selected from the group consisting of an E99, a J415, a J533, and a J591 monoclonal antibody.

30 10. A method according to claim 8, wherein the antibody is a monoclonal antibody produced by a hybridoma cell line having an ATCC Accession Number selected from the group consisting of HB-12101, HB-12109, HB-12127, and HB-12126.

35 11. A method according to claim 4, wherein a binding portion of an antibody is used in carrying out said method, the binding portion being selected from the group consisting of an Fab fragment, an F(ab')₂ fragment, and an Fv fragment.

12. A method according to claim 4, wherein the probe or ligand is used in carrying out said method.

13. A method according to claim 1, wherein the
5 biological agent is bound to a substance effective to kill or ablate the cancerous cells upon binding of the biological agent to vascular endothelial cells proximate to the cancerous cells.

14. A method according to claim 13, wherein the substance effective to kill or ablate the cancerous cells is a cytotoxic drug.

15. A method according to claim 14, wherein
15 the cytotoxic drug is selected from the group consisting of therapeutic drug, a compound emitting radiation, molecules of plant, fungal, or bacterial origin, biological proteins, and mixtures thereof.

20 16. A method according to claim 4, wherein the antibody is effective to initiate an endogenous host immune function.

25 17. A method according to claim 16, wherein the endogenous host immune function is complement-mediated cellular cytotoxicity.

30 18. A method according to claim 16, wherein the endogenous host immune function is antibody-dependent cellular cytotoxicity.

35 19. A method according to claim 1, wherein the biological agent is in a composition further comprising a physiologically acceptable carrier, excipient, or stabilizer.

20. A method according to claim 1, wherein the biological agent is in a composition further comprising a pharmaceutically acceptable carrier, excipient, or stabilizer.

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21. A method of detecting cancerous tissue in a biological sample comprising:

providing an biological agent which, when contacted with an extracellular domain of prostate specific membrane antigen, binds to the extracellular domain of prostate specific membrane antigen, wherein the biological agent is bound to a label effective to permit detection of vascular endothelial cells proximate to or within the cancerous tissue upon binding of the biological agent to the vascular endothelial cells proximate to or within the cancerous tissue;

contacting the biological sample with the biological agent having a label under conditions effective to permit binding of the biological agent to the vascular endothelial cells proximate to or within the cancerous tissue in the biological sample; and

detecting a presence of any cancerous tissue in the biological sample by detecting the label.

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22. A method according to claim 21, wherein the cancerous tissue is renal cancerous tissue, urothelial cancerous tissue, colon cancerous tissue, rectal cancerous tissue, lung cancerous tissue, breast cancerous tissue, or cancerous tissue of metastatic adenocarcinoma to the liver.

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23. A method according to claim 21, wherein the biological agent is an antibody or binding portion thereof, probe, or ligand.

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24. A method according to claim 21, wherein the biological agent, when contacted with an

extracellular domain of prostate specific membrane antigen, is internalized with the prostate specific membrane antigen.

5 25. A method according to claim 21, wherein said contacting is carried out in a living mammal and comprises:

 administering the biological agent to the mammal under conditions effective to permit binding of
10 the biological agent to the vascular endothelial cells proximate to or within the cancerous tissue in the biological sample.

15 26. A method according to claim 25, wherein the label is a short-range radiation emitter.

20 27. A method according to claim 25, wherein said administering is carried out orally, parenterally, subcutaneously, intravenously, intramuscularly, intraperitoneally, by intravascular instillation, by intracavitary or intravesical instillation, intraocularly, intraarterially, intralesionally, or by application to mucous membranes.

25 28. A method according to claim 23, wherein an antibody is used in carrying out said method, said antibody being selected from the group consisting of a monoclonal antibody and a polyclonal antibody.

30 29. A method according to claim 28, wherein the antibody is selected from the group consisting of an E99, a J415, a J533, and a J591 monoclonal antibody.

35 30. A method according to claim 28, wherein the antibody is a monoclonal antibody produced by a hybridoma cell line having an ATCC Accession Number

selected from the group consisting of HB-12101, HB-12109, HB-12127, and HB-12126.

5 31. A method according to claim 23, wherein a binding portion of an antibody is used in carrying out said method, the binding portion being selected from the group consisting of an Fab fragment, an F(ab')₂ fragment, and an Fv fragment.

10 32. A method according to claim 23, wherein a probe or ligand is used in carrying out said method.

15 33. A method according to claim 21, wherein the label is selected from the group consisting of a fluorescent label, a radioactive label, a nuclear magnetic resonance active label, a luminescent label, and a chromophore label.

20 34. A method according to claim 21, wherein the biological agent is in a composition further comprising a physiologically acceptable carrier, excipient, or stabilizer.

25 35. A method according to claim 21, wherein the biological agent is in a composition further comprising a pharmaceutically acceptable carrier, excipient, or stabilizer.

30 36. A method according to claim 21, wherein said contacting is carried out in a sample of serum or urine.

37. A method according to claim 21, wherein said contacting is carried out in a tissue biopsy sample.